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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,130	12/20/2001	Christine J. Landry-Coltrain	82966LMB	2370

7590 12/14/2007
Paul A. Leipold
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EXAMINER

SCHWARTZ, PAMELA R

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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12/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/028,130	Applicant(s) LANDRY-COLTRAIN ET AL.	
	Examiner Pamela R. Schwartz	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 1-20, 47 and 52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-46, 48-51, 53 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-54 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. In view of the Appeal Brief filed on October 5, 2007, PROSECUTION IS HEREBY REOPENED. The new and maintained grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:



Milton Cano, Art Unit 1794

MILTON I. CANO
SUPERVISORY PATENT EXAMINER

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21-46, 48-51, 53 and 54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the

application was filed, had possession of the claimed invention. The amendment of November 26, 2004 (with later amendments to the language) adding the limitation of "at least 58%" of crosslinked porous polyester particles have a diameter of less than 0.5 micrometers into the independent claims (claims 21 and 53) is new matter. Applicants were relying upon Table 4, PE-4 to support this amendment. However, PE-4 indicates that 58.6% of porous polyester particles in a bimodal system have a mean diameter of 0.47 microns. This does not support the instant claim language. In particular, the claims do not accurately recite the value of the example, i.e. 58.6% and does not recite that the particles are bimodal. In addition, the instant claim language of claims 21 and 53 doesn't recite mean diameter.

Contrary to applicants' assertions that Table B, first submitted in the remarks of November 26, 2004, contains no new data, the table indicates that 58.6% of Mode 1 particles are <0.5 microns in size rather than that 58.6% of all particles in the layer are <0.5 microns is size. This is confusing and inaccurate.

With respect to claim 54, "by weight" in the claim is not supported by the specification and the value, at least 58%, is not supported by the example as set forth above.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29-32, 40-43 and 54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 29-32 are confusing

because claim 29 recites that the particles of claim 21 "are a component of an at least bimodal system." Since claim 21 recites that "at least 58%" of the particles have a diameter of less than 0.5 micrometers, the language of claim 21 already accounts for multiple modes (up to 42% are available to form one or more additional modes). Claim 21 is broad enough as written to refer to a monomodal system or a bimodal system. Claim 29 should have referred to the "at least 58%" with mean diameter of less than 0.5 micrometers as being one mode of a bimodal system rather than referring to all of the particles of claim 21 as "a component" of a bimodal system. As written, claim 29 is confusing.

Claim 40 is confusing because there is no antecedent basis for "said layer comprising porous particles having a mean diameter of less than 0.5 micrometers" in claim 21.

Claims 41-43 and 54 are confusing because they recite more than one mean diameter for porous polyester particles in a given layer. Since the mean is the average particle size, the layer should have only one average size rather than two or more. It appears that applicants may have intended to recite mean diameters of two modes of particles, one with a peak in the particle size distribution graph below 0.5 microns, and the other with a peak in the particle size distribution graph above 0.5 microns. If this was applicants' intent, these claims should be amended to refer to a bimodal system.

Claim 54 contains a similar recitation that a single layer contains porous polyester particles with mean diameters both greater than and less than 0.5 micrometers. This is confusing unless a bimodal system is recited.

For purposes of application of the prior art, claims 41-43 and 54 will be treated as if they claim a bimodal distribution of particles in one or more layers.

4. Claims 21-28, 33-40, 44-46, 48-51 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (Japanese Kokai Patent Application No. Hei 7[1995]-137432). The reference discloses an ink jet recording paper having an ink absorbing layer coated on a support, the ink absorbing layer (the top most layer) containing porous polyester resin particles ([0005] - indicates appropriate paragraph of prior art translation supplied by applicants). The volume average particle diameter is 0.5-100 microns. The examiner cannot patentably distinguish 0.5 microns from less than 0.5 micrometers. The examiner has considered applicants' showings but was unable to identify showings that demonstrated the criticality of particle size by varying only this feature of the recording medium [0006].

Maeda et al. use different terminology to recite particle size, but it appears that its ranges would overlap with those instantly claimed. Maeda et al. disclose a volume average particle size D that can be 0.5 microns. In addition, 70 wt % or more of the particles are in the size range of 0.5D-2.0D (i.e. 0.25 microns to 1 micron). Applicants' claim 21 requires that numerically at least 58% of the particles have a diameter of less than 0.5 micrometers. Such particle size distributions would clearly have been suggested by [0006] of Maeda et al.

The reference discloses use of underlayers or specialty supports in order to obtain a smooth surface [0025]. Normally, smoothness and gloss are related characteristics. It is also well known in the art to form or treat the ink receiving layer in a

way that maximizes gloss when a glossy surface is desired. For example, it is well known to calendar the surface of the medium to increase gloss. It would have been obvious to one of ordinary skill in the art to treat the surface of the medium of the reference in order to obtain a desired level of gloss. The support may be paper, synthetic paper, or synthetic resin film [0025]. Based upon this disclosure, it would have been obvious to one of ordinary skill in the art to form the support of either transparent or opaque resin since both are well known and commonly used in the art.

The reference discloses the formation characteristics of the polyester particles in paragraphs [0008]-[0013] including the use of fumaric or maleic acid in forming the polyester, inclusion of sulfonated monomers, number average molecular weight of the polyester, and the content of ionic groups. The particles may be in a binder including polyvinyl alcohol and other known binders [0023] and may be used in the instantly claimed proportions [0024]. Based upon the broad disclosure of binders, it would have been obvious to one of ordinary skill in the art to use any well known binder for ink receiving layers as the binder of the reference. Mr. Leon has stated in his first declaration that the acid number cannot be calculated without significant amounts of information concerning the polymerization reaction of the polyester resin. The acid number is not stated by the reference or calculable by the examiner. However, it would have been obvious to one of ordinary skill in the art to determine the acid number by monitoring and determining the appropriate degree of progress of formation reaction of the particles of Maeda et al. in order to result in desired crosslinked particles.

Divinylbenzene may be used as a monomer to crosslink the polyester resin of the reference [0013].

Layer thicknesses are disclosed [0024] and it also would have been obvious to one of ordinary skill in this art to determine layer thicknesses and thickness of the medium overall in order to obtain necessary levels of ink absorption and required levels of machine feedability and handling characteristics of the media. Inclusion of one or more layers would have been obvious to one of ordinary skill in the art in order to control the overall thickness of the ink receiving layer. In addition, it is well known to include smaller particles in upper layers intended to achieve gloss and larger particles in lower layers intended primarily for ink absorption. It would have been obvious to one of ordinary skill in the art to include a gloss layer with smaller particles over an ink absorption layer including larger particles in order to achieve gloss in the coating of Maeda et al.

5. Claims 21-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (Japanese Kokai Patent Application No. Hei 7[1995]-137432) for reasons set forth above and further in view of Henry et al (5,518,809) or Martinson et al (5,445,866). Henry et al. disclose improved feed facilitation when bimodal particles of narrow standard deviation are used in an image receptive layer (see col. 4, lines 26031). Martinson et al. also disclose improved feedability and anti-blocking properties when using bimodal particles of narrow standard deviation in an image recording layer (see col. 7, lines 15-22). Based upon these disclosures, it would have been obvious to one of ordinary skill in the art to include bimodal particles in the medium of the primary

reference in order to obtain improved feedability and anti-blocking properties. It is noted that the preferred ranges for standard deviation disclosed by the reference are narrower than those of instant claim 30. The examiner has reviewed applicants' specification but was unable to determine the criticality of a broader range in standard deviation. Without such information, it would have been considered obvious to one of ordinary skill in the art to optimize this recognized property of particles used in image recording layers.

6. The "is" in claim 48 has been amended to "has." This amendment was not present in the claims appendix to applicants' Appeal Brief.

7. With respect to the arguments applicants included in their Appeal Brief, it is noted that Maeda et al. disclose particles with a mean particle size in a range from 0.5 to 100 microns that is not patentably distinguishable from the instantly claimed range.

Applicants' control examples do not represent Maeda et al. and therefore are not comparisons with the closest prior art. As stated in the rejection above, smaller particles are known in the art to result in higher levels of gloss. Therefore, increased gloss through the use of smaller particles would have been an expected result to one of ordinary skill in the art.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

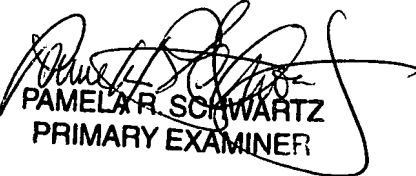
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano, can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz
December 7, 2007


PAMELA R. SCHWARTZ
PRIMARY EXAMINER